UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/919,586	07/30/2001	Brian J. Elmenhurst	29094/11:2	2587

3528	7590	07/29/2004	**EXAMINER**	
STOEL RIVES LLP			CHANG, JON CARLTON	
900 SW FIFTH AVENUE				
SUITE 2600		**ART UNIT**	**PAPER NUMBER**	
PORTLAND, OR 97204		2623		

DATE MAILED: 07/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *30 July 2001* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date *12/30/01& 6/4/02*.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

Drawings

1.   The drawings are objected to because:

a) Figures 2-5 include extraneous information such as the word "CONFIDENTIAL" and a copyright notice;

b) The drawings are not of sufficient quality for publication (note handwritten portions);

c) In Figure 3, in block 304, the letter "c" in the word "Tecdmdogy" should not be present.

Corrected drawing sheets are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

2.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3.   Claims 1-3, 7-12, 14 and 16-20 are rejected under 35 U.S.C. 102(b) as being

anticipated by U.S. Patent 5,805,710 to Higgins et al.

Regarding claim 1, Higgins et al disclose an iterative character recognition

method employing a database of predetermined character strings, the method

comprising the steps of:

(a) receiving a digital representation of a character string (Column 5, Lines 20-

24);

(b) generating a proposed result string by applying a predetermined recognition

routine to the received digital representation, the predetermined recognition routine

including a plurality of recognition subroutines each employing a corresponding initial

parameter setting (Figure 7, Address Block Location (ABL) Subroutine and

Segmentation Subroutine; Column 5, Lines 40-67, Column 6, Lines 1-41);

(c) determining whether the proposed result string matches any of the predetermined character strings (Column 5, Lines 62-66, Column 6, Lines 1-16);

(d) if the proposed result string does not match any of the predetermined character strings, adjusting the corresponding initial parameter setting for at least one of the recognition subroutine (Figures 7, 15 and 16; Column 7, Lines 49-67; Column 8, Lines 1-42); and then

(e) repeating steps (b) and (c) to generate a next proposed result string and to determine whether the next proposed result string matches any of the predetermined character strings (Figure 7, Adaptive processing 66; Column 5, Lines 62-66, Column 6, Lines 1-37).

Regarding Claim 2, Higgins et al further discloses the method of claim 1 further including the step of repeating steps (d) and (e) until reaching a termination condition (Figure 7, Adaptive processing 66; Column 5, Lines 62-66, Column 6, Lines 1-37).

Regarding Claim 3, Higgins et al further discloses the method of claim 2 wherein the termination condition is the proposed result string matching any of the predetermined character strings (Figure 7, Address 68).

Regarding Claim 7, Higgins et al further disclose the method of claim 2 wherein the predetermined recognition routine is an optical character recognition routine (Column 5, Lines 8-15).

Regarding Claim 8, Higgins et al further disclose the method of claim 7 wherein the optical character recognition routine is a multi-line optical character recognition routine (Column 6, Lines 32-36).

Regarding Claim 9, Higgins et al further disclose a method for adaptively recognizing addresses on mail pieces wherein:

the optical character recognition routine is for mail processing (Figure 1; Column 5, Lines 26-30);

the character string is a mailing address (Figure 7; Column 5, Lines 62-66, Column 6, Lines 1-22); and

the predetermined character strings are known mailing addresses (Figure 7; Column 5, Lines 62-66, Column 6, Lines 1-22).

Regarding Claim 10, Higgins et al further disclose the method of claim 9 wherein the plurality of recognition subroutine is chosen from a group consisting of an address block location subroutine, an image enhancement subroutine, a segmentation subroutine, a feature extraction subroutine, a character selection subroutine, a confidence subroutine, and a handwriting recognition subroutine (Figure 7, Address Block Location (ABL) recognition subroutine).

Regarding Claim 11, Higgins et al further disclose the method of claim 10 wherein:

the plurality of recognition subroutines include the character selection subroutine (Figure 7, Segmentation recognition; Column 5, Lines 62-66, Column 6, Lines 1-16);

the initial parameter setting references a first character set (Figure 7, ZIP Code 13821); and

the adjusted parameter setting references a second character set (Figure 7, ZIP Code 13827).

Regarding Claim 12, Higgins et al further disclose the method of Claim 10 wherein:

the plurality of recognition subroutines include the address block location subroutine (Figure 7, Address Block Location (ABL) recognition subroutine);

the initial parameter setting is a first Boolean value instructing whether to use a predefined address block location assumption (Figure 7, ZIP Code 13821; Column 6, Lines 17-22. The first Boolean value is the false value associated with the unknown ZIP Code 13821); and

the adjusted parameter setting is a second Boolean value instructing whether to use the predefined address block location assumption (Figure 7, ZIP Code 13827; Column 4, Lines 58-64. The second Boolean value is the true value associated with the unknown ZIP Code 13827).

Regarding Claim 14, Higgins et al further disclose the method of Claim 1 wherein adjusting the initial parameter setting includes selecting a next parameter setting (Figure 16; Column 7, Lines 65-67, Column 8, Lines 1-35).

Regarding Claim 16, Higgins et al further disclose the method of Claim 1 wherein the digital representation is a digital image (Figure 6; Column 5, Lines 20-30).

With regards to Claims 17 and 18, remarks analogous to those presented for Claim 1 are applicable to Claims 17 and 18.

Regarding Claim 19, Higgins et al further disclose the character recognition engine of Claim 18 wherein the database of acceptable result strings is operated

independent of the self-orthogonal character recognition engine (Figure 6, Dynamic

Data Base 72; Column 5, Lines 40-60).

Regarding Claim 20, Higgins et al further disclose the character recognition

engine of Claim 18 wherein the database of acceptable result strings is external to the

self-orthogonal character recognition engine (Figure 6, Dynamic Data Base 72; Column

5, Lines 40-60. Dynamic data Base 72 is external to the self-orthogonal character

recognition engine 74.).

4.   Claims 1-3, 7 and 17-18 are rejected under 35 U.S.C. 102(b) as being

anticipated by U.S. Patent 5,197,107 to Katsuyama et al. (hereinafter "Katsuyama").

As to claim 1, Katsuyama discloses an iterative character recognition method

employing a database of predetermined character strings (column 3, lines 42-44), the

method comprising the steps of:

(a) receiving a digital representation of a character string (column 6, lines 26-28);

(b) generating a proposed result string by applying a predetermined recognition

routine to the received digital representation, the predetermined recognition routine

including a recognition subroutine employing an initial parameter setting (Fig.13,

elements 407, 411 and 412);

(c) determining whether the proposed result string matches any of the

predetermined character strings (Fig.13, elements 407, 411 and 412);

(d) if the proposed result string does not match any of the predetermined

character strings, adjusting the initial parameter setting of the recognition subroutine

(Fig.12, elements 415, 414); and then

(e) repeating steps (b) and (c) to generate a next proposed result string and to

determine whether the next proposed result string matches any of the predetermined

character strings (note the process loops back to blocks 405 or 408).

With regard to claim 2, Katsuyama discloses the method of claim 1 further

including the step of repeating steps (d) and (e) until reaching a termination condition

(i.e., the detection of high recognition reliability at block 412).

With regard to claim 3, Katsuyama discloses the method of claim 2 wherein the

termination condition is the proposed result string matching any of the predetermined

character strings (in block 412, a high recognition reliability implies there is a match).

As to claim 7, Katsuyama discloses the method of claim 2 wherein the

predetermined recognition routine is an optical character recognition routine (column 22,

lines 55-56)

Regarding claims 17 and 18, remarks analogous to those presented above for

claim 1 are applicable.

5.   Claims 1 and 17-18 are rejected under 35 U.S.C. 102(e) as being anticipated by

U.S. Patent 6,041,141 to Yamamoto et al. (hereinafter "Yamamoto").

Regarding claim 1, Yamamoto discloses an iterative character recognition method employing a database of predetermined character strings (column 43, lines 65-66), the method comprising the steps of:

(a) receiving a digital representation of a character string (column 12, line 22);

(b) generating a proposed result string by applying a predetermined recognition routine to the received digital representation, the predetermined recognition routine including a recognition subroutine employing an initial parameter setting (column 39, lines 13-16, 32-34);

(c) determining whether the proposed result string matches any of the predetermined character strings (column 42, lines 49-51; column 43, lines 65-67);

(d) if the proposed result string does not match any of the predetermined character strings, adjusting the initial parameter setting of the recognition subroutine (Fig.1(a), elements 1-11, 1-14 and 1-16; column 18, lines 34-41, 46-48, and 59-67); and then

(e) repeating steps (b) and (c) to generate a next proposed result string and to determine whether the next proposed result string matches any of the predetermined character strings (in Fig.1(a), the process loops back to elements 1-4 and 1-5 via 1-16).

Regarding claims 17 and 18, remarks analogous to those presented above for claim 1 are applicable.

Claim Rejections - 35 USC § 103

6.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

7.   Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Higgins et al.

Regarding Claim 4, Higgins et al do not explicitly disclose the method of Claim 2

wherein the termination condition is an expiration of a predetermined duration of time.

Termination condition based on the expiration of a predetermined duration of

time is a standard procedure routinely implemented in iterative processing (Official

Notice).

It would have been obvious to a person of ordinary skill in the art at the time the

invention was made to terminate the iterative character recognition in the condition of

expiration of a predetermined duration of time because it is a well known methodology

routinely implemented in iterative processes, and because for practical purposes, due to

time constraints and the need to process additional data for example, any iterative

process should be terminated.

Regarding Claim 5, Higgins et al do not explicitly disclose the method of Claim 2

wherein the termination condition is a completion of a predetermined number of

repetitions of steps (d) and (e).

Termination condition based on the completion of a predetermined number of

repetitions is a standard procedure routinely implemented in iterative processing

(Official Notice).

It would have been obvious to a person of ordinary skill in the art at the time the

invention was made to terminate the iterative character recognition in the condition of

completion of a predetermined number of repetitions because it is a well known

methodology routinely implemented in iterative processes, and provides a relatively

simple way of terminating a process.

8.   Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Higgins et

in view of U.S. Patent 5,240,116 to Stevens et al.

Regarding Claim 6, Higgins et al do not explicitly disclose the method of Claim 2

wherein the predetermined recognition routine is a magnetic ink character recognition

routine.

Stevens et al disclose a method for determining the orientation of a document

bearing magnetic ink marking comprising a magnetic ink character recognition routine

(Figure 1; Column 2, Lines 64-68, Column 3, Lines 1-60.

It would have been obvious to a person of ordinary skill in the art at the time the

invention was made to modify Higgins et al invention according to the teachings of

Stevens et al to implement a magnetic ink character recognition routine because it will

facilitate recognition of documents bearing magnetic ink markings and will expedite the

process of identifying mail envelops containing specified MI documents (Stevens et al;

Abstract).

9.   Claims 13 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Higgins et al. in view of the article "Handwritten Character Recognition using Fuzzy

Logic" by Sasi et al.

Regarding Claim 13, Higgins et al further disclose the method of Claim 10

wherein:

the plurality of recognition subroutines include the segmentation subroutine

(Figure 7, Address Block Location (ABL) recognition subroutine).

Higgins do not disclose further limitations of Claim 13.

Sasi et al disclose a handwritten character recognition method using Fuzzy Logic

comprising;

the initial parameter setting as a first Boolean value instructing whether to use a

heuristic segmentation algorithm (Page 1401, setting Boolean value X_{12});

and the adjusted parameter setting is a second Boolean value instructing

whether to use the heuristic segmentation algorithm (Page 1401, setting Boolean value

X_{13}; page 1402, Conclusion, Last paragraph).

It would have been obvious to a person of ordinary skill in the art at the time the

invention was made to modify Higgins et al invention according to the teachings of Sasi

et al to implement further limitation of Claim 13 because it will provide a more effective

character recognition system.

Regarding claim 15, Higgins et al do not disclose the method of claim 1 wherein the step of determining the proposed result string match includes using fuzzy logic.

Sasi et al disclose a handwritten character recognition method using Fuzzy Logic wherein determining the result string match includes using fuzzy logic (Abstract).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Higgins et al invention according to the teachings of Sasi et al to determine the proposed result string match using fuzzy logic because it will provide more effective character recognition system (Sasi et al Page 1399, Column 2, Last Paragraph).

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jon Chang whose telephone number is (703)305-8439. The examiner can normally be reached on M-F 8:00 a.m.-6:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amelia Au can be reached on (703)308-6604. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

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For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

Jon Chang
Primary Examiner
Art Unit 2623

Jon Chang
July 26, 2004